Noncontrast Assessment of Blood–Brain Barrier Permeability to Water: Shorter Acquisition, Test–Retest Reproducibility, and Comparison with Contrast-Based Method, Zixuan Lin, Dengrong Jiang, Dapeng Liu, Yang Li, Jinsoo Uh, Xirui Hou, Jay J. Pillai, Qin Qin, Yulin Ge, and Hanzhang Lu ..................143 Published online 8 February 2021

Characterization and Compensation of $f_0$ Inhomogeneity Artifact in Spiral Hyperpolarized $^{13}$C Imaging of the Human Heart, Galen D. Reed, Junjie Ma, Jae Mo Park, Rolf F. Schulte, Crystal E. Harrison, Albert P. Chen, Salvador Pena, Jeannie Baxter, Kelly Dermer, Maida Tai, Jaffar Raza, Jeff Liticker, Ronald G. Hall II, A. Dean Sherry, Vlad G. Zaha, and Craig R. Malloy .............157 Published online 5 February 2021

Probing the Myelin Water Compartment with a Saturation-Recovery, Multi-Echo Gradient-Recalled Echo Sequence, Elena Kleban, Penny Gowland, and Richard Bowtell ....................167 Published online 12 February 2021

Minimum TR Radiofrequency-Pulse Design for Rapid Gradient Echo Sequences, Samy Abo Seada, Anthony N. Price, Joseph V. Hajnal, and Shaihan J. Malik ......................182 Published online 15 February 2021

Region-Optimized Virtual (ROVir) Coils: Localization and/or Suppression of Spatial Regions Using Sensor-Domain Beamforming, Daen Kim, Stephen F. Cauley, Krishna S. Nayak, Richard M. Leahy, and Justin P. Haldar ..................197 Published online 16 February 2021

Similarity-Driven Multi-Dimensional Binning Algorithm (SIMBA) for Free-Running Motion-Suppressed Whole-Heart MRA, John Heerfordt, Kevin K. Whitehead, Jessica A. M. Bastiaansen, Lorenzo Di Sopra, Christopher W. Roy, Jérôme Yerly, Bastien Milani, Mark A. Fogel, Matthias Stuber, and Davide Piccini ..................213 Published online 24 February 2021

Quantification of Intravoxel Incoherent Motion with Optimized b-Values Using Deep Neural Network, Wonil Lee, Byungjai Kim, and HyunWook Park ..........230 Published online 16 February 2021

Improving the Sensitivity of Spin-Echo fMRI at 3T by Highly Accelerated Acquisitions, Antonia Barghoorn, Bruno Riemenschneider, Jürgen Hennig, and Pierre LeVan ..................245 Published online 23 February 2021

Joint Image and Field Map Estimation for Multi-Echo Hyperpolarized $^{13}$C Metabolic Imaging of the Heart, Julia Traechtler, Valery Vishnevskiy, Maximilian Fuetterer, and Sebastian Kozerke .......258 Published online 3 March 2021

Myofiber Strain in Healthy Humans Using DENSE and cDTI, Kévin Moulin, Pierre Croisille, Magalie Viallon, Ilya A. Verzhbinsky, Luigi E. Perotti, and Daniel B. Ennis ...........................................277 Published online 22 February 2021

Spatial Dependency and the Role of Local Susceptibility for Velocity Selective Arterial Spin Labeling (VS-ASL) Relative Tagging Efficiency Using Accelerated 3D Radial Sampling with a BIR-8 Preparation, James H. Holmes, Mu-Lan Jen, Laura B. Eisenmenger, Tilman Schubert, Patrick A. Turski, and Kevin M. Johnson ..................293 Published online 21 February 2021


Highly Accelerated Subtractive Femoral Non-Contrast-Enhanced MRA Using Compressed Sensing with k-Space Subtraction, Phase and Intensity Correction, Hao Li, Martin J. Graves, Nadeem Shaida, Akash Prashar, David J. Lomas, and Andrew N. Priest ..................320 Published online 1 March 2021

Super-Resolution Head and Neck MRA Using Deep Machine Learning, Ioannis Koktzoglou, Rong Huang, William J. Ankenbrandt, Matthew T. Walker, and Robert R. Edelman ..........335 Published online 22 February 2021

Whole-Brain Quantitative CEST MRI at 7T Using Parallel Transmission Methods and B-Correction, Andrzej Liebert, Katharina Tkotz, Jürgen Herrler, Peter Linz, Angelika Mennecke, Alex German, Patrick Liebig, Rene Gumbrecht, Manuel Schmidt, Arnd Doerfler, Michael Uder, Moritz Zaiss, and Armin M. Nagel ........................................213 Published online 26 February 2021

Notes
A Phantom Study Comparing Radial Trajectories for Accelerated Cardiac 4D Flow MRI Against a Particle Imaging Velocimetry Reference, Philip A. Corrado, Rafael Medero, Kevin M. Johnson, Christopher J. François, Alejandro Roldán-Alzate, and Oliver Wieben ...........................................363 Published online 5 February 2021
Simultaneous \( T_1, T_2, \) and \( T_1 \rho \) Relaxation Mapping of the Lower Leg Muscle with MR Fingerprinting, Azadeh Sharafi, Katherine Medina, Marcelo W. V. Zibetti, Smita Rao, Martijn A. Cloos, Ryan Brown, and Ravinder R. Regatte

Published online 8 February 2021


Published online 3 February 2021

High-Frequency Electrical Properties Tomography at 9.4T as a Novel Contrast Mechanism for Brain Tumors, Clémentine Lesbats, Nitish Katoch, Atul Singh Minhas, Arthur Taylor, Hyung Joong Kim, Eung Je Woo, and Harish Poptani

Published online 2 February 2021

Clinical Routine Acquisition Protocol for 3D Relaxation-Compensated APT and rNOE CEST-MRI of the Human Brain at 3T, Steffen Goerke, Johannes Breitling, Andreas Korzowski, Daniel Paech, Moritz Zaiss, Heinz-Peter Schlemmer, Mark E. Ladd, and Peter Bachert

Published online 14 February 2021

Longitudinal Study of Sub-Regional Cerebral Viscoelastic Properties of 5XFAD Alzheimer’s Disease Mice Using Multifrequency MR Elastography, Shreyan Majumdar and Dieter Klatt

Published online 18 February 2021

Multi-Component \( T_1 \) Relaxation Modelling in Human Achilles Tendon: Quantifying Chemical Shift Information in Ultra-Short Echo Time Imaging, Muhammad A. R. Anjum, Felix M. Gonzalez, Anshuman Swain, Johannes Leisen, Zahra Hosseini, Adam Singer, Monica Umpierrez, and David A. Reiter

Published online 15 February 2021

Diffusion Interactions Between Crossing Fibers of the Brain, Sergey V. Buldyrev, Xiangyi Meng, Timothy G. Reese, Farzad Mortazavi, Douglas L. Rosene, H. Eugene Stanley, and Van J. Wedeen

Published online 22 February 2021

Assessment of Carotid Stiffness by Measuring Carotid Pulse Wave Velocity Using a Single-Slice Oblique-Sagittal Phase-Contrast MRI, Sorosh Heidari Pahlavian, Steven Yong Cen, Xiaoming Bi, Danny J. J. Wang, Helena Chang Chui, and Lirong Yan

Published online 5 February 2021


Published online 3 February 2021

Accelerated White Matter Lesion Analysis Based on Simultaneous \( T_1 \) and \( T_2 \) Quantification Using Magnetic Resonance Fingerprinting and Deep Learning, Ingo Hermann, Eloy Martinez-Heras, Benedikt Rieger, Ralf Schmidt, Alena-Kathrin Golla, Jia-Sheng Hong, Wei-Kai Lee, Wu Yu-Te, Martijn Nagtegaal, Elisabeth Solana, Sara Llufríu, Achim Gass, Lothar R. Schad, Sebastian Weingärtner, and Frank G. Zöllner

Published online 5 February 2021


Published online 2 February 2021

Deep Learning-Based T1-Enhanced Selection of Linear Attenuation Coefficients (DL-TESLA) for PET/MR Attenuation Correction in Dementia Neuroimaging, Yasheng Chen, Chunwei Ying, Michael M. Binkley, Meher R. Juttukonda, Shaney Flores, Richard Laforest, Tammie L. S. Benzinger, and Hongyu An

Published online 8 February 2021

Finite Element Simulations of Hyperpolarized Gas DWI in Micro-CT Meshes of Acinar Airways: Validating the Cylinder and Stretched Exponential Models of Lung Microstructural Length Scales, Ho-Fung Chan, Guilhem J. Collier, Juan Parra-Robles, and Jim M. Wild

Published online 23 February 2021

QSM Reconstruction Challenge 2.0: A Realistic in Silico Head Phantom for MRI Data Simulation and Evaluation of Susceptibility Mapping Procedures, José P. Marques, Jakob Meineke, Carlos Milovic, Berkin Bilgic, Kwok-Shing Chan, Renaud Hedouin, Wietske van der Zwaag, Christian Langkammer, and Ferdinand Schweser

Published online 26 February 2021
Notes
Temperature-Based MRI Safety Simulations with a Limited Number of Tissues, Giuseppe Carluccio, Can Akgun, John Thomas Vaughan, and Christopher Collins .......................................................... 543
Published online 5 February 2021

Three-Dimensional Spatially Resolved Phase Graph Framework, Xiang Gao, Valerij G. Kiselev, Thomas Lange, Jürgen Hennig, and Maxim Zaitsev ............................................................. 551
Published online 19 February 2021

Local SAR Compression Algorithm with Improved Compression, Speed, and Flexibility, Stephan Orzada, Thomas M. Fiedler, Harald H. Quick, and Mark E. Ladd ............................................................... 561
Published online 26 February 2021

Hardware and Instrumentation
Full Papers
Minimum Electric-Field Gradient Coil Design: Theoretical Limits and Practical Guidelines, Peter B. Roemer and Brian K. Rutt ........................................... 569
Published online 9 February 2021

Published online 25 February 2021